



AAPP
Australian Antarctic
Program Partnership

Symposium 2021

Progress and Priorities in the Antarctic and Southern Ocean
26 - 27 October 2021

Day 1: 26 October 2021

Venue: [The Old Woolstore Apartment Hotel](#)

Zoom channel 1: <https://utas.zoom.us/j/82356451338>

Zoom channel 2: <https://utas.zoom.us/j/81632862543>

08:45 – 09:00 Registration		Foyer	
SESSION		Chair – Nathan Bindoff	
09:00 – 09:15	Welcome & Introduction	Nathan Bindoff/Greg Johannes	Merino Room Zoom channel 1
09:15 – 09:30	Assistant Minister's address	Senator the Hon. Jonathon Duniam, Senator for Tasmania; Assistant Minister for Forestry and Fisheries; Assistant Minister for Industry Development	Merino Room Zoom channel 1
09:30 – 10:20	Multifaceted Southern Ocean Ecosystems research and outlook	Philip Boyd/Rob King/Elizabeth Shadwick/Sophie Bestley	Merino Room Zoom channel 1

10:20 – 10:50 Morning tea		Merino Room	
SESSION		Chair – Philip Boyd	
	<i>THEME 1: Antarctica's Influence on Climate and Sea Level</i>		
10:50 – 11:00	Progress towards improving simulations of the atmosphere over the Southern Ocean	Simon Alexander	Merino Room Zoom channel 1
11:00 – 11:10	Ice core research in AAPP	Lenneke Jong/David Etheridge	Merino Room Zoom channel 1
11:10 – 11:20	Ice shelves – motivation and progress	Sarah Thompson	Merino Room Zoom channel 1
	<i>THEME 3: Future of Antarctic Sea Ice, Krill and Ecosystems</i>		
11:20 – 11:40	Upcoming Antarctic sea-ice research seen through the AAPP lens	Petra Heil	Merino Room Zoom channel 1
11:40 – 11:50	Sea ice algae responses to ocean warming	Robert Strzepek	Merino Room Zoom channel 1
11:50 – 12:00	What can zooplankton tell us about food webs and responses to changing conditions in the Southern Ocean	Christine Weldrick	Merino Room Zoom channel 1

12:00 – 12:30	<i>Invited talk</i> Stirring up the Southern Ocean: Submesoscale dynamics and ventilation in the ACC	Andy Thompson, Caltech	Merino Room Zoom channel 1
12:30 – 13:30	Lunch		Stockmans Restaurant
SESSION		Chair: Beatriz Pena-Molino	
	<i>THEME 2: Nature and Impacts of Southern Ocean Change</i>		
13:30 – 13:45	Progress on Southern Ocean change – modelling and observations	Annie Foppert	Merino Room Zoom channel 1
13:45 – 14:00	Southern Ocean biogeochemical modelling and observations	Elizabeth Shadwick	Merino Room Zoom channel 1
14:00 – 14:30	<i>Invited talk</i> SOCCOM at age 8: what have we learned from a BGC-Argo array	Ken Johnson, MBARI	Merino Room Zoom channel 1
SESSION		Chair: Rob Jennings	
14:30 – 15:00	Poster Lightning talks & Breakout introductions		Merino Room Zoom channel 1
15:00 – 15:30	Afternoon tea & poster viewing		Merino Room
15:30 – 16:15	<i>Parallel breakout session</i> Getting your research funded through patronage	Andrew Kelly, ASF CEO	Merino Room Zoom channel 1
	New remote sensing opportunities	Benoit Legresy/Alex Fraser	Theatrette Zoom channel 2
16:15 – 17:00	<i>Parallel breakout session</i> Whole Antarctic view of research voyages and opportunities	Ruhi Humphries/Marc Mallet/Andrew Klekociuk	Merino Room Zoom channel 1
	Digital Antarctica - User Story session	Rob Jennings/Johnathan Kool	Theatrette Zoom channel 2
17:00 – 17:05	Closing remarks	Nathan Bindoff	Merino Room Zoom channel 1
17:30 – 19:30	Evening Event Catering is provided by Taco Taco, free of charge to Symposium registrants. Beverages can be purchased at the bar, operated by Hobart Brewing Company		Red Square Hobart Brewing Company 16 Evans Street



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10:30 – 11:00	Registration & Morning Tea		Foyer/Merino Room
SESSION		Chair: Steve Rintoul	
11:00 – 11:30	<i>Invited talk</i> Antarctica in a warming world	Helen Fricker, Scripps Institution of Oceanography – UC San Diego	Merino Room Zoom channel 1
SESSION		Chair: Rob Jennings	
11:30 – 12:00	Poster Lightning talks & Breakout introductions		Merino Room Zoom channel 1
12:00 – 13:00	Lunch & poster viewing		Stockmans Restaurant
SESSION		Chair: Petra Heil	
13:00 – 13:30	<i>Invited talk</i> Advances in modelling ocean currents on the Antarctic margin	Andy Hogg, ANU	Merino Room Zoom channel 1
13:30 – 14:30	<i>Parallel breakout session</i> Antarctic and Southern Ocean modelling	Ben Galton-Fenzi/Will Hobbs/Sonya Fiddes	Merino Room Zoom channel 1
	Antarctica or Southern Ocean: Frontiers for young minds outreach	Pat Wongpan	Theatrette Zoom channel 2
14:30 – 15:00	Afternoon tea & poster viewing		Merino Room
15:00 – 16:00	<i>Parallel breakout session</i> The need for guidance on long-term monitoring in the Southern Ocean and Antarctica	Petra Heil/Tony Press	Merino Room Zoom channel 1
	Integrating atmospheric modelling into the wider AAPP projects	Sonya Fiddes/Marc Mallet/Matt Woodhouse/Melita Keywood	Theatrette Zoom channel 2
SESSION		Chair: Nathan Bindoff	
16:00 – 16:20	Breakout rapporteur reports	Breakout rapporteurs (8x2min)	Merino Room Zoom channel 1
16:20 – 16:30	Poster prizes	Greg Johannes	Merino Room Zoom channel 1
16:30 – 16:45	Closing remarks	Nathan Bindoff	Merino Room Zoom channel 1



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POSTER PROGRAM

26 October 2021

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Merino and Drovers Room

[Poster folder](#)

POSTER ID	PRESENTING AUTHOR	STATUS	TITLE
1	Alex Fraser	Research Associate	Analysis of an 18 year record of circum-Antarctic fast ice distribution: extent, trends and climate consequences
2	Stephy Libera	Student	Oceanic processes underlying multi-month predictability of Antarctic sea ice
3	Sarah Thompson	Research Associate	NECKLACE – A sentinel of change
4	Petra Heil	In-kind contributor	East Antarctic Marginal Ice Zone Study
5	Nathan Bindoff	In-kind contributor	Changing Oxygen Content in the Southern Ocean (and World)
6	Maya Jakes	Student	Zonal variations in the strength of the Southern Ocean's heat barrier
7	Chen Zhao	Research Associate	Representation of basal melting in idealised coupled ice sheet ocean models
8	Denisse Fierro Arcos	Student	Using a high-resolution sea ice-ocean model, ACCESS-OM2-01, to assess environmental change in the Southern Ocean
9	Marc Mallet	Research Associate	Shining sunlight on the Southern Ocean with machine learning
10	Christopher Trull	Student	Lithogenic particle flux from the Southern Ocean Time Series Observatory sediment trap record
11	Kerrie Swadling	In-kind contributor	Zooplankton
12	Joel Pedro	In-kind contributor	The Million Year Ice Core Project



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POSTER ID	PRESENTING AUTHOR	STATUS	TITLE
13	Danielle Udy	Student	Synoptic weather connection between Law Dome ice core and Australian rainfall
14	Lisa Crow	Student	The Ice Shelf Lasagne: the influence of marine ice on ice shelf dynamics and stability
15	Tyler Rohr	Research Associate	Grazing controls on carbon cycling in the simulated Southern Ocean
16	Rob Massom & Phil Reid	In-kind contributor	A New Coastal Exposure Index for Antarctica
17	Sonya Fiddes	Research Associate	Understanding cloud-radiation biases using machine learning
18	Andrew Klekociuk	In-kind contributor	The air chemistry capability of the RSV Nuyina: Progress and plans
19	Pat Wongpan	Research Associate	Estimation of Primary Production in Antarctic Land-fast Sea Ice during 2005-2006
20	Laura Dalman	Student	Bio-optical properties of algal communities in Antarctic pack ice during spring
21	Rick Smith	Research Associate	Realistic Ice-sheet/ocean State Estimates
22	Tian Tian	Student	Validation of a daily satellite-derived Antarctic sea ice velocity product: impacts on ice kinematics
23	Neal Young	In-kind contributor	Thick sea ice distribution about the AAT, and iceberg freeboard observations

Breakout session	Leads	Description	Location
Getting your research funded through patronage	Andrew Kelly, ASF CEO	In this breakout session with Andrew Kelly from The Antarctic Science Foundation will: <ul style="list-style-type: none"> - describe the purpose and strategic plan of the Foundation and the potential of philanthropy to the AAPP; - explain how projects are proposed to philanthropists when soliciting transformational gifts; - detail the characteristics of projects and researchers most likely to attract philanthropy; - outline how get your project into the pipeline for consideration by ASF supporters; and - interactive session where researchers can describe their research projects and Andrew will highlight those aspects which will most appeal to philanthropy. 	Merino Room Zoom channel 1
New remote sensing opportunities	Benoit Legresy and Alex Fraser	Regardless of the field, all modern researchers are users of remote sensing data. We will provide an overview of current and emerging capabilities with an emphasis on AAPP applications, and highlight new progress in delivering near-real time satellite-derived datasets to our research vessels.	Theatrette Zoom channel 2
Whole Antarctic view of research voyages and opportunities	Ruhi Humphries, Marc Mallet, and Andrew Klekociuk	There is great scientific interest in the atmospheric processes in the Southern Ocean and Antarctic region, and their complex biogeochemical and climate linkages. This interest has been translated to plans for several measurement programs and research voyages from numerous countries around the globe. An international effort is underway to coordinate and magnify the scientific output from the various projects. The effort involves both modeller and measurement scientists. Come along if you would like to be a part of this effort.	Merino Room Zoom channel 1
Antarctic and Southern Ocean modelling	Ben Galton-Fenzi, Will Hobbs and Sonya Fiddes	Modelling activities are key to the successful completion of AAPP milestones across all Themes and Projects. Current AAPP modelling activities cut across all Antarctic geophysical domains (atmosphere, ocean, cryosphere and biogeochemistry), but to date there has been limited discussion on how best to integrate these modelling activities with each other and with field campaigns, to best support AAPP strategic goals, especially in the medium- to long-term. This session will ensure that a) all Projects are aware of the current modelling activities and platforms are in current use in AAPP; b) ensure that all Projects are aware of what model output is immediately available for analysis; c) will discuss and list any potential science cases/experiments that may have value across multiple AAPP Projects.	Merino Room Zoom channel 1
Digital Antarctica - User Story session	Rob Jennings and Johnathan Kool	Digital Antarctica is providing a new way for Antarctic data centres to share their data. This breakout session will serve as an opportunity to discuss the practical benefits of easier and better data sharing, and to receive input from the broader community. From this session we will generate “user stories” based on your experiences and your expectations in finding and re-using data, which will be used in the future development of Digital Antarctica.	Theatrette Zoom channel 2

Breakout session	Leads	Description	Location
Integrating atmospheric modelling into the wider AAPP projects	Sonya Fiddes, Marc Mallet, Matt Woodhouse, and Melita Keywood	An opportunity for the atmospheric ACCESS modelling team to see how we can better connect to other aspects of the AAPP, including (but not limited to): BGC (dust, black carbon, DMS, radiation), ice cores (composition modelling eg. sea salt, dust, black carbon, MSA, precipitation fluxes), ocean/sea-ice (is there interest in a fully coupled ACCESS run?). Come along if you think you could use some of our outputs, or if you think we could use some of yours (eg. observations!)	Guest lounge/meeting room Zoom channel 2
Antarctica or Southern Ocean: Frontiers for young minds outreach	Pat Wongpan	For this “Frontiers for Young Minds outreach” breakout group, we are aiming to turn our AAPP key science questions into stories for young minds. We invite AAPP researchers at every career level including PhD students, RAs, Members, Project Leaders, Theme Leaders, etc. to contribute to a set of Frontiers of Young Minds manuscripts for (but not limited to) the Frontiers “Earth and its Resources” and “Biodiversity” subject areas. There are two types of articles we can submit (i) stories of new discoveries where we can describe our findings, and (ii) stories about core concepts where we can explain/synthesize the fundamental ideas of our Antarctic research. We aim for 1 contribution/theme, or 1 contribution/project (to be discussed). Articles will be reviewed by kids 8-11 or 12-15 age groups, copy-edited and published in Frontiers for Young Minds collection. Manuscript lengths are 1,500 words, 1-3 figures, and ~5 references.	Guest lounge/meeting room Zoom channel 2
The need for guidance on long-term monitoring in the Southern Ocean and Antarctica	Petra Heil/Tony Press	While not perceived cutting edge, long-term monitoring is essential to providing a sound basis of knowledge upon to build good management decisions and policy. Effective long-term environmental monitoring, especially in remote or harsh locations, is challenging and can only be sustained if building on proven design, endearing commitment and resourcing. Derived data and information need to be placed in context to other relevant records to provide more complete evidence of variability, change and any drivers. Here we wish to explore not only scientific requirements for funding and undertaking long-term monitoring of Earth System variables but also those of non-scientific endusers, including decision- and policy-makers.	Merino Room Zoom channel 1